1/14

SEQUENCE LISTING

<110> Takeda Pharmaceutical Company Limited <120> Metastin Derivatives And Its Use <130> G05-0018 <150> PCT/JP2003/016978 <151> 2003-12-26 <150> JP 2002-377179 <151> 2002-12-26 <160> 22 <210> 1 <211> 54 <212> PRT <213> Homo sapiens <400> 1 Gly Thr Ser Leu Ser Pro Pro Pro Glu Ser Ser Gly Ser Arg Gln Gln 10 Pro Gly Leu Ser Ala Pro His Ser Arg Gln Ile Pro Ala Pro Gln Gly 20 25 30 Ala Val Leu Val Gln Arg Glu Lys Asp Leu Pro Asn Tyr Asn Trp Asn 35 40 45 Ser Phe Gly Leu Arg Phe 50 <210> 2 <211> 162 <212> DNA <213> Homo sapiens <400> 2

60

120

162

ggtacttctc t	tgtctccgcc	gccggaatc	t tctggttct	gtcagcagcc	gggtctgtct
gctccgcact c	ctcgtcagat	cccggctcc	g cagggtgct	g ttctggttca	gcgtgaaaaa
gacctgccga a	actacaactg	gaactcttt	c ggtctgcgt	t tc	
<210> 3					
⟨211⟩ 152					
<212> PRT					
<213> Mus mu	ısculus				
<400> 3					
Met Tyr Leu	Arg Phe Gl	y Val Asp	Val Cys Sea	Leu Ser Pro	Trp Lys
	5		10		15
Glu Thr Val	Asp Leu Pr	o Leu Pro	Pro Arg Met	: Ile Ser Met	Ala Ser
	20		25	30)
Trp Gln Leu	Leu Leu Le	u Leu Cys	Val Ala Thi	Tyr Gly Glu	Pro Leu
35		40		45	
Ala Lys Val	Ala Pro Gl	y Ser Thr	Gly Gln Glr	Ser Gly Pro	Gl'n Glu
50		55	•	60	
Leu Val Asn	Ala Trp Gl	u Lys Glu	Ser Arg Typ	· Ala Glu Ser	Lys Pro
65	70		75		80
Gly Ser Ala		g Ala Arg	Arg Ser Ser	Pro Cys Pro	Pro Val
	85		90		95
Glu Gly Pro		g Gln Arg		Ala Ser Arg	Ser Arg
	100		105	110	
Leu Ile Pro	Ala Pro Ar		Val Leu Val	Gln Arg Glu	Lys Asp
115	_	120		125	
Leu Ser Thr	Tyr Asn Tr		Phe Gly Leu		Arg Arg
130		135		140	
Gln Ala Ala					
145	150)			
(010)					
<210> 4					

<400> 4

<211> 456 <212> DNA

<213> Mus musculus

atgtatctga gatttggcgt tgatgtctgc agcctgagtc cctggaagga gactgtagac 60 ctgccccttc ctcccagaat gatctcaatg gcttcttggc agctgctgct tctcctctgt 120 gtcgccacct atggggagcc gctggcaaaa gtgaagcctg gatccacagg ccagcagtcc 180 ggaccccagg aactcgttaa tgcctgggaa aaggaatcgc ggtatgcaga gagcaagcct 240 gggtctgcag ggctgcggc tcgtaggtcg tcgccatgcc cgccggttga gggccccgcg 300 gggcgccagc ggccctgtg tgcctcccgc agtcgcctga tccctgcgc ccgcggagcg 360 gtgctggtgc agcgggagaa ggacctgtcc acctacaact ggaactcctt cggcctgcgc 420 tacggcagga ggcaggcgg gcgggcagca cggggc

⟨210⟩ 5

<211> 156

<212> PRT

<213> Mus musculus

<400> 5

Met Tyr Leu Arg Phe Gly Val Asp Val Cys Ser Leu Ser Pro Trp Lys 5 10 . 15

Glu Thr Val Asp Leu Pro Leu Pro Pro Arg Met Ile Ser Met Ala Ser
20 25 30

Trp Gln Leu Leu Leu Leu Cys Val Ala Thr Tyr Gly Glu Pro Leu 35 40 45

Ala Lys Val Ala Pro Leu Val Lys Pro Gly Ser Thr Gly Gln Gln Ser
50 .55 60

Gly Pro Gln Glu Leu Val Asn Ala Trp Glu Lys Glu Ser Arg Tyr Ala 65 70 75 80

Glu Ser Lys Pro Gly Ser Ala Gly Leu Arg Ala Arg Arg Ser Ser Pro 85 90 95

Cys Pro Pro Val Glu Gly Pro Ala Gly Arg Gln Arg Pro Leu Cys Ala 100 105 110

Ser Arg Ser Arg Leu Ile Pro Ala Pro Arg Gly Ala Val Leu Val Gln 115 120 125

Arg Glu Lys Asp Leu Ser Thr Tyr Asn Trp Asn Ser Phe Gly Leu Arg 130 135 140

Tyr Gly Arg Arg Gln Ala Ala Arg Ala Ala Arg Gly
145 150 155

<210> 6

60

180

300

360420

468

<211> 468 <212> DNA

```
<213> Mus musculus
<400> 6
atgtatctga gatttggcgt tgatgtctgc agcctgagtc cctggaagga gactgtagac
ctgccccttc ctcccagaat gatctcaatg gcttcttggc agctgctgct tctcctctgt
gtcgccacct atggggagcc gctggcaaaa gtggcacctt tggtgaagcc tggatccaca
ggccagcagt ccggacccca ggaactcgtt aatgcctggg aaaaggaatc gcggtatgca
gagagcaagc ctgggtctgc agggctgcgc gctcgtaggt cgtcgccatg cccgccggtt
gagggccccg cggggcgcca gcggcccctg tgtgcctccc gcagtcgcct gatccctgcg
cccegeggag eggtgetggt geagegggag aaggacetgt ccacctacaa etggaactee
ttcggcctgc gctacggcag gaggcaggcg gcgcgggcag cacggggc
<210> 7
<211> 130
<212> PRT
<213> Rattus sp.
<400> 7
Met Thr Ser Leu Ala Ser Trp Gln Leu Leu Leu Leu Cys Val Ala
                 5
                                     10
Ser Phe Gly Glu Pro Leu Ala Lys Met Ala Pro Val Val Asn Pro Glu
                                 25
Pro Thr Gly Gln Gln Ser Gly Pro Gln Glu Leu Val Asn Ala Trp Gln
         35
                                                 45
                             40
Lys Gly Pro Arg Tyr Ala Glu Ser Lys Pro Gly Ala Ala Gly Leu Arg
                         55
Ala Arg Arg Thr Ser Pro Cys Pro Pro Val Glu Asn Pro Thr Gly His
                     70
                                         75
                                                              80
Gln Arg Pro Pro Cys Ala Thr Arg Ser Arg Leu Ile Pro Ala Pro Arg
                                     90
                 85
Gly Ser Val Leu Val Gln Arg Glu Lys Asp Met Ser Ala Tyr Asn Trp
                                105
Asn Ser Phe Gly Leu Arg Tyr Gly Arg Arg Gln Val Ala Arg Ala Ala
                            120
        115
                                                125
Arg Gly
```

130

<210> 8

<211> 390

<212> DNA

<213> Rattus sp.

<400> 8

atgacctcgc tggcttcttg gcagctgctg cttctcctct gtgtggcctc ttttggggag 60 ccactggcaa aaatggcacc tgtggtgaac cctgaaccca caggccaaca gtccggaccc 120 caggaactcg ttaatgcctg gcaaaagggc ccgcggtatg cagagagcaa gcctggggct 180 gcaggactgc gcgctcgccg aacatcgcca tgccgccgg tggagaaccc cacggggcac 240 cagcggccc cgtgtgccac ccgcagtcgc ctgatccctg cgccccgcgg atcggtgctg 300 gtgcagcgcg agaaggacat gtcagcctac aactggaact cctttggcct gcgctacggc 360 aggagggcagg tggcgcggc ggcacggggc

<210> 9

<211> 398

<212> PRT

<213> Homo sapiens

<400> 9

Met His Thr Val Ala Thr Ser Gly Pro Asn Ala Ser Trp Gly Ala Pro
5 10 15

Ala Asn Ala Ser Gly Cys Pro Gly Cys Gly Ala Asn Ala Ser Asp Gly
20 25 30

Pro Val Pro Ser Pro Arg Ala Val Asp Ala Trp Leu Val Pro Leu Phe

Phe Ala Ala Leu Met Leu Leu Gly Leu Val Gly Asn Ser Leu Val Ile 50 55 60

Tyr Val Ile Cys Arg His Lys Pro Met Arg Thr Val Thr Asn Phe Tyr 65 70 75 80

Ile Ala Asn Leu Ala Ala Thr Asp Val Thr Phe Leu Leu Cys Cys Val
85 90 95

Pro Phe Thr Ala Leu Leu Tyr Pro Leu Pro Gly Trp Val Leu Gly Asp 100 105 110

Phe Met Cys Lys Phe Val Asn Tyr Ile Gln Gln Val Ser Val Gln Ala

		115					120					125			
Thr	Cys	Ala	Thr	Leu	Thr	Ala	Met	Ser	Val	Asp	Arg	Trp	Tyr	Val	Thr
	130					135					140				
Val	Phe	Pro	Leu	Arg	Ala	Leu	His	Arg	Arg	Thr	Pro	Arg	Leu	Ala	Leu
145					150					155					160
Ala	Val	Ser	Leu	Ser	Ile	Trp	Val	Gly	Ser	Ala	Ala	Val	Ser	Ala	Pro
				165					170					175	
Val	Leu	Ala	Leu	His	Arg	Leu	Ser	Pro	Gly	Pro	Arg	Ala	Tyr	Cys	Ser
			180					185					190		
Glu	Ala	Phe	Pro	Ser	Arg	Ala	Leu	Glu	Arg	Ala	Phe	Ala	Leu	Tyr	Asn
		195					200					205			
Leu	Leu	Ala	Leu	Tyr	Leu	Leu	Pro	Leu	Leu	Ala	Thr	Cys	Ala	Cys	Tyr
	210					215					220				
Ala	Ala	Met	Leu	Arg	His	Leu	Gly	Arg	Val	Ala	Val	Arg	Pro	Ala	Pro
225					230					235					240
Ala	Asp	Ser	Ala	Leu	Gln	Gly	Gln	Val	Leu	Ala	Glu	Arg	Ala	Gly	Ala
				245					250					255	
Val	Arg	Ala	Lys	Val	Ser	Arg	Leu	Val	Ala	Ala	Val	Val	Leu	Leu	Phe
			260					265					270		
Ala	Ala	Cys	Trp	Gly	Pro	Ile	Gln	Leu	Phe	Leu	Val	Leu	Gln	Ala	Leu
		275					280					285			
Gly	Pro	Ala	Gly	Ser	Trp	His	Pro	Arg	Ser	Tyr	Ala	Ala	Tyr	Ala	Leu
	290					295					300				
Lys	Thr	Trp	Ala	His	Cys	Met	Ser	Tyr	Ser	Asn	Ser	Ala	Leu	Asn	
305					310					315					320
Leu	Leu	Tyr	Ala	Phe		Gly	Ser	His	Phe	Arg	Gln	Ala	Phe		
				325										335	
Val	Cys	Pro	Cys	Ala	Pro	Arg	Arg		Arg	Arg	Pro	Arg		Pro	Gly
			340					345					350		
Pro	Ser		Pro	Ala	Ala	Pro		Ala	Glu	Leu	His		Leu	Gly	Ser
		355					360				_	365			
His		Ala	Pro	Ala	Arg			Lys	Pro	Gly		Ser	Gly	Leu	Ala
	370			_		375				,	380				
	Arg	Gly	Leu	Cys		Leu	Gly	Glu	Asp		Ala	Pro	Leu		
385					390					395					

<211> 1194

<212> DNA

<213> Homo sapiens

<400> 10

60	caacgcctcc	gggcaccggc	gcgtcctggg	cggacccaac	tggctacgtc	atgcacaccg
120	gcgggccgtg	tcccttcgcc	gacggcccag	caacgcctcg	gctgtggcgc	ggctgcccgg
180	ggtggggaac	tgctgggcct	gcgctgatgc	cttcttcgcg	tcgtgccgct	gacgcctggc
240	caacttctac	ggaccgtgac	aagccgatgc	ctgccgccac	tctacgtcat	tcgctggtca
300	cttcacggcc	gctgcgtccc	ttcctcctgt	ggacgtgacc	tggcggccac	atcgccaacc
360	cgtcaactac	tgtgcaagtt	ggcgacttca	ctgggtgctg	cgctgcccgg	ctgctgtacc
420	tgtggaccgc	ccgccatgag	gccactctga	ggccacgtgt	tctcggtgca	atccagcagg
480	cctggcgctg	gcacgccccg	ctgcaccgcc	gttgcgcgcc	cggtgttccc	tggtacgtga
540	gctcgccctg	ctgcgccggt	gcggcggtgt	ggtaggctct	tcagcatctg	gctgtcagcc
600	ccgcgccctg	ccttccccag	tgcagtgagg	gcgcgcctac	cacccgggcc	caccgcctgt
660	gctcgccacc	tgctgccgct	gcgctgtacc	caacctgctg	tcgcactgta	gagcgcgcct
720	cccgcgccc	tcgccgtgcg	ctgggccggg	gctgcgccac	atgcggccat	tgcgcctgct
780	gcgggccaag	caggcgccgt	gcagagcgcg	gcaggtgctg	ccctgcaggg	gccgatagcg
840	ccccatccag	cctgctgggg	ctcttcgccg	cgtggtcctg	tggtggcggc	gtctcgcggc
900					tgctgcaggc	
960	gctgaacccg	gcaactccgc	atgtcctaca	ggctcactgc	ttaagacctg	gcctacgcgc
1020	ctgcccctgc	tccgccgcgt	cgacaggcct	ctcgcacttc	ccttcctggg	ctgctctacg
1080	agccccacac	cggaccccgc	cccggaccct	ccccgccgg	gccccgccg	gcgccgcgcc
1140					accgcctggg	
1194	tctc	acaacgcccc	ctgggggagg	gctgtgcgtc	ccgcgcgcgg	agtgggctgg

<210> 11

<211> 396

<212> PRT

 $\langle 213 \rangle$ Rattus sp.

<400> 11

Met Ala Ala Glu Ala Thr Leu Gly Pro Asn Val Ser Trp Trp Ala Pro $5 \hspace{1.5cm} 10 \hspace{1.5cm} .\hspace{1.5cm} 15 \hspace{1.5cm}$ Ser Asn Ala Ser Gly Cys Pro Gly Cys Gly Val Asn Ala Ser Asp Gly

Ser Asn Ala Ser Gly Cys Pro Gly Cys Gly Val Asn Ala Ser Asp Gly
20 25 30

Pro Gly Ser Ala Pro Arg Pro Leu Asp Ala Trp Leu Val Pro Leu Phe

		35					40					45			
Phe	Ala	Ala	Leu	Met	Leu	Leu	Gly	Leu	Val	Gly	Asn	Ser	Leu	Val	Ile
	50					55					60				
Phe	Val	Ile	Cys	Arg	His	Lys	His	Met	Gln	Thr	Val	Thr	Asn	Phe	Tyr
65					70					75					80
Ile	Ala	Asn	Leu	Ala	Ala	Thr	Asp	Val	Thr	Phe	Leu	Leu	Cys	Cys	Val
				85					90					95	
Pro	Phe	Thr	Ala	Leu	Leu	Tyr	Pro	Leu	Pro	Thr	Trp	Val	Leu	Gly	Asp
			100					105					110		
Phe	Met	Cys	Lys	Phe	Val	Asn	Tyr	Ile	Gln	Gln	Val	Ser	Val	Gln	Ala
		115					120					125			
Thr	Cys	Ala	Thr	Leu	Thr	Ala	Met	Ser	Val	Asp	Arg	Trp	Tyr	Val	Thr
	130					135					140				
Val	Phe	Pro	Leu	Arg	Ala	Leu	His	Arg	Arg	Thr	Pro	Arg	Leu	Ala	
145					150					155				_	160
Thr	Val	Ser	Leu	Ser	Ile	Trp	Val	Gly		Ala	Ala	Val	Ser		Pro
				165				_	170	_				175	
Val	Leu	Ala		His	Arg	Leu	Ser		Gly	Pro	His	Thr		Cys	Ser
			180	_				185			DI	A 7	190	т	A =
Glu	Ala		Pro	Ser	Arg	Ala		Glu	Arg	Ala	Pne		Leu	lyr	ASI
	•	195		т	1	1	200 D	1	1	41.	Thm	205	۸1.	Cvc	Tur
Leu		Ala	Leu	Tyr	Leu			Leu	Leu	Ala	220	Cys	ніа	Cys	1 9 1
C1	210	Wa+	1	1 2 2	uio	215		Ara	Δla	Δla		Δra	Pro	Ala	Pro
	АТа	меι	Leu	Arg	230	Leu	GIY	M g	піа	235	Vai	ni g	110	ma	240
225	Acn	Glv	Δ1a	Leu		G1 v	Gln	Len	Len		Gln	Arø	Ala	Glv	
1111	nsp	Gly	MIG	245		01)	0111	LCu	250		0111	6		255	
Val	Arg	Thr	Lvs	Val		Arg	Leu	Val			Val	Val	Leu		Phe
, 41	**** 6	••••	260			8		265					270		
Ala	Ala	Cvs		Gly	Pro	Ile	Gln		Phe	Leu	Val	Leu			Leu
		275	•	·			280					285			
Gly	Pro		Gly	Ala	Trp	His	Pro	Arg	Ser	Tyr	Ala	Ala	Tyr	Ala	Leu
-	290				-	295					300				
Lys			Ala	His	Cys	Met	Ser	Tyr	Ser	Asn	Ser	Ala	Leu	Asn	Pro
305					310					315					320
Leu	Leu	Tyr	Ala	Phe	Leu	Gly	Ser	His	Phe	Arg	Gln	Ala	Phe	Cys	Arg
				325					330)				335	

Val Cys Pro Cys Gly Pro Gln Arg Gln Arg Arg Pro His Ala Ser Ala 345 350 340 His Ser Asp Arg Ala Ala Pro His Ser Val Pro His Ser Arg Ala Ala 365 355 360 His Pro Val Arg Val Arg Thr Pro Glu Pro Gly Asn Pro Val Val Arg 370 375 380 Ser Pro Ser Val Gln Asp Glu His Thr Ala Pro Leu 390 395 385

<210> 12 <211> 1188 <212> DNA <213> Rattus sp.

<400> 12

60 atggccgcag aggcgacgtt gggtccgaac gtgagctggt gggctccgtc caacgcttcg ggatgcccgg gctgcggtgt caatgcctcg gatggcccag gctccgcgcc aaggcccctg 120 180 gatgcctggc tggtgcccct gtttttcgct gccctaatgt tgctggggct agtcgggaac tcactggtca tcttcgttat ctgccgccac aagcacatgc agaccgtcac caatttctac 240 300 ategetaace tggcggccae agatgteact tteettetgt getgegtaee etteacegeg 360 ctcctctatc cgctgcccac ctgggtgctg ggagacttca tgtgcaaatt cgtcaactac 420 atccagcagg tctcggtgca agccacatgt gccactttga cagccatgag tgtggaccgc 480 tggtacgtga ctgtgttccc gctgcgtgca cttcaccgcc gcactccgcg cctggccctg actgtcagcc ttagcatctg ggtgggttcc gcagctgttt ccgccccggt gctggctctg 540 600 caccgcctgt cgcccgggcc tcacacctac tgcagtgagg cgtttcccag ccgtgccctg 660 gagcgcgctt tcgcgctcta caacctgctg gccctatacc tgctgccgct gctcgccacc 720 tgcgcctgct acggtgccat gctgcgccac ctgggccgcg ccgctgtacg ccccgcaccc 780 actgatggcg ccctgcaggg gcagctgcta gcacagcgcg ctggagcagt gcgcaccaag 840 gtctcccggc tggtggccgc tgtcgtcctg ctcttcgccg cctgctgggg cccgatccag ctgttcctgg tgcttcaagc cctgggcccc tcgggggcct ggcaccctcg aagctatgcc 900 960 gcctacgcgc tcaagatctg ggctcactgc atgtcctaca gcaattctgc gctcaacccg 1020 ctgctctatg ccttcctggg ttcccacttc agacaggcct tctgccgcgt gtgcccctgc ggcccgcaac gccagcgtcg gccccacgcg tcagcgcact cggaccgagc cgcaccccat 1080 agtgtgccgc acagccgggc tgcgcaccct gtccgggtca ggacccccga gcctgggaac 1140 cctgtggtgc gctcgccctc tgttcaggat gaacacactg ccccactc 1188

	<211	> 39	96													
	<212	2> PF	T7													
	<213	3> Mu	ıs mu	ıscu]	lus											
	<400)> 13	3													
	Met	Ala	Thr	Glu	Ala	Thr	Leu	Ala	Pro	Asn	Val	Thr	Trp	Trp	Ala	Pro
	1				5					10					15	
	Ser	Asn	Ala	Ser	Gly	Cys	Pro	Gly	Cys	Gly	Val	Asn	Ala	Ser	Asp	Asp
				20					25					30		
	Pro	Gly	Ser	Ala	Pro	Arg	Pro	Leu	Asp	Ala	Trp	Leu	Val	Pro	Leu	Phe
			35					40					45			
	Phe	Ala	Thr	Leu	Met	Leu	Leu	Gly	Leu	Val	Gly	Asn	Ser	Leu	Val	Ile
		50					55					60				
	Tyr	Val	Ile	Cys	Arg	His	Lys	His	Met	Gln	Thr	Val	Thr	Asn	Phe	Tyr
	65					70					75					80
	Ile	Ala	Asn	Leu		Ala	Thr	Asp	Val		Phe	Leu	Leu	Cys		Val
					85					90					95	
	Pro	Phe	Thr	Ala	Leu	Leu	Tyr	Pro		Pro	Ala	Trp	Val		Gly	Asp
				100					105					110		
	Phe	Met		Lys	Phe	Val	Asn		Ile	Gln	Gln	Val		Val	Gln	Ala
	_		115					120	_				125			
	Thr		Ala	Thr	Leu	Thr		Met	Ser	Val	Asp		Trp	Tyr	Val	Thr
		130	_				135				m i	140		,		
		Phe	Pro	Leu	Arg		Leu	HIS	Arg	Arg		Pro	Arg	Leu	Ala	
	145	17 1	•	,	0	150	Tr.	v 1	01	C	155	4.1	17 1	C	. 1	160
	Ala	Val	Ser	Leu			lrp	Val	Gly					Ser		Pro
•	17 7	,		,	165			0						т.	175	
	Val	Leu	Ala	Leu	HIS	Arg	Leu	Ser		Gly	Pro	Arg	Inr		Cys	Ser
	C1	41.	DI	180 Date:	C	A	A 1 -	1	185	A	A 1 -	Dl	41-	190	Т	Α
	Glu	Ala		Pro	ser	Arg	Ala		GIU	Arg	AIA	rne		Leu	ıyr	ASII
	1	1	195	1	Т	1	1	200 Drag	1	I	41.	The	205 Cura	41 -	Corr	Т
	Leu		на	Leu	туг	Leu		Pro	Leu	Leu	мта		Cys	мта	Cys	IyI
	C1 v	210	Mc+	Lou	1	u; ~	215	C1 v-	A = -	۸۱.	۸۱۸	220 Val	Δ~~	Dro	۸1،	Dwa
	925	MIA	меι	Leu	wr.Ř	730	Leu	GIÀ	wr.R	vig	235	val	vīß	110	wig	240

Thr Asp Gly Ala Leu Gln Gly Gln Leu Leu Ala Gln Arg Ala Gly Ala

250

255

245

Val Arg Thr Lys Val Ser Arg Leu Val Ala Ala Val Va	l Leu Leu Phe
260 265	270
Ala Ala Cys Trp Gly Pro Ile Gln Leu Phe Leu Val Le	u Gln Ala Leu
275 280 28	5
Gly Pro Ser Gly Ala Trp His Pro Arg Ser Tyr Ala Al	a Tyr Ala Val
290 295 300	
Lys Ile Trp Ala His Cys Met Ser Tyr Ser Asn Ser Al	a Leu Asn Pro
305 310 315	320
Leu Leu Tyr Ala Phe Leu Gly Ser His Phe Arg Gln Al	a Phe Cys Arg
325 330	335
Val Cys Pro Cys Cys Arg Gln Arg Gln Arg Pro Hi	s Thr Ser Ala
340 345	350
His Ser Asp Arg Ala Ala Thr His Thr Val Pro His Se	r Arg Ala Ala
355 360 36	5
His Pro Val Arg Ile Arg Ser Pro Glu Pro Gly Asn Pr	o Val Val Arg
370 375 380	
Ser Pro Cys Ala Gln Ser Glu Arg Thr Ala Ser Leu	
385 390 395	

<210> 14

<211> 1188

<212> DNA

<213> Mus musculus

<400> 14

60 atggccaccg aggcgacatt ggctcccaat gtgacctggt gggctccgtc caacgcttca ggatgcccag gctgcggtgt caacgcctcg gatgacccag gctctgcgcc aaggcccctg 120 180 gatgcctggc tggttcccct gtttttcgct acactcatgt tgcttgggct ggtcggaaac 240 tcattggtca tctacgttat ctgccgccac aagcacatgc agacagttac caacttctac 300 atcgctaacc tggctgccac agacgtcact ttcctactgt gctgcgtgcc cttcaccgca 360 ctcctctacc cgctgcccgc ctgggtgctg ggagacttca tgtgcaaatt cgtcaactac 420 atccagcagg tctcggtgca agccacatgt gccactctga cggccatgag tgtggaccgc tggtatgtga ctgtgttccc gctgcgtgca cttcaccgcc gcactccgcg cctggccctg 480 540 gctgtcagcc tcagcatctg ggtggggtca gcagctgtgt ccgccccggt gctggccctg 600 caccgcctgt cgccagggcc tcgcacctac tgcagcgagg cgtttcccag ccgcgccctg gagcgccct tcgcgctcta caacctgctg gctctatatc tgctgccgct gctcgccacc 660 720 tgcgcctgct acggcgccat gctgcgccac ctgggccgtg cggctgtacg ccccgcaccc

```
actgacggcg ccctgcaggg acagctgcta gcacagcgcg ccggagcagt gcgcaccaag 780
gtctcccggc tggtggccgc tgtcgtcctg ctcttcgccg cctgctgggg cccgatccag 840
ctgttcctgg tgcttcaagc cctgggcccc tcgggggcct ggcaccctcg aagctatgcc 900
gcctacgcgg tcaagatctg ggctcactgc atgtcctaca gcaactcggc gctcaatccg 960
ctgctctatg ccttcctggg ttcacacttc agacaggcct tctgccgcgt gtgcccctgc 1020
tgccggcaac gccagcgccg gccccacacg tcagcgcact cggaccgagc tgcaactcac 1080
actgtgccgc acagccgtgc tgcgcaccct gtgcggatca ggagcccgga gcctgggaac 1140
                                                                  1188
cctgtggtgc gctcgccctg cgctcagagt gaacgcactg cctcactc
<210> 15
<211> 15
<212> PRT
<213> Artificial
<220>
<223> the C-terminus of the polypeptide is amide (-CONH2) form
<400> 15
Lys Asp Leu Pro Asn Tyr Asn Trp Asn Ser Phe Gly Leu Arg Phe
                  5
                                     10
                                                         15
<210> 16
<211> 10
<212> PRT
<213> Artificial
<220>
<223> the C-terminus of the polypeptide is amide (-CONH2) form
<400> 16
Tyr Asn Trp Asn Ser Phe Gly Leu Arg Phe
1
                 5
                                     10
<210> 17
<211> 9
<212> PRT
```

<213> Artificial

```
<220>
<223> the C-terminus of the polypeptide is amide (-CONH2) form
<400> 17
Asn Trp Asn Ser Phe Gly Leu Arg Phe
                  5
1
<210> 18
<211> 8
<212> PRT
<213> Artificial
<220>
<223> the C-terminus of the polypeptide is amide (-CONH2) form
<400> 18
Trp Asn Ser Phe Gly Leu Arg Phe
                  5
<210> 19
<211> 45
<212> DNA
<213> Homo sapiens
<400> 19
                                                                   45
aaggacctgc cgaactacaa ctggaactcc ttcggcctgc gcttc
<210> 20
<211> 30
<212> DNA
<213> Homo sapiens
<400> 20
                                                                     30
tacaactgga actccttcgg cctgcgcttc
```

<210> 21

<211> 27	
<212> DNA	
<213> Homo sapiens	
<400> 21	
aactggaact ccttcggcct gcgcttc	27
<210> 22	
<211> 24 · · ·	
<212> DNA	
<213> Homo sapiens	
<400> 22	
tggaactcct tcggcctgcg cttc	24